



A.D. 1866, 18th JANUARY. N° 169.

S P E C I F I C A T I O N

OF

WILLIAM HIBBERT.

MEDICINAL COMPOUNDS.

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A.D. 1866, 18th *JANUARY*. N^o 169.

Medicinal Compounds.

LETTERS PATENT to William Hibbert, of the City of Manchester, in the County of Lancaster, for the Invention of “**IMPROVEMENTS IN THE COMBINATION OF CHEMICAL MATTERS AND MECHANICAL APPARATUS APPLIED THEREWITH FOR THE PREVENTION OR CURE OF CONTAGIOUS AND OTHER DISEASES TO WHICH HUMAN BEINGS AND ANIMALS ARE SUBJECT.**”

Sealed the 17th July 1866, and dated the 18th January 1866.

PROVISIONAL SPECIFICATION left by the said William Hibbert at the Office of the Commissioners of Patents, with his Petition, on the 18th January 1866.

I, **WILLIAM HIBBERT**, of the City of Manchester, in the County of Lancaster, do hereby declare the nature of the said Invention for “**IMPROVEMENTS IN THE COMBINATION OF CHEMICAL MATTERS AND MECHANICAL APPARATUS APPLIED THEREWITH FOR THE PREVENTION OR CURE OF CONTAGIOUS AND OTHER DISEASES TO WHICH HUMAN BEINGS AND ANIMALS ARE SUBJECT,**” to be as follows:—

This Invention consists, firstly, of a compound solution to be used internally as a medicine or outwardly as baths, embrocations, or saturated bandages; it also acts as a disinfectant and preventive agent against infectious diseases generally.

Secondly, of mechanical apparatus for filtering, purifying, and disinfecting the polluted air or atmosphere in infected situations. It is particularly applicable to preventing and arresting the progress of fermentation and decom-

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position in the blood of human beings or animals, as in the cases of rinderpest, fevers, womb diseases, scrofula, mortification, glanders, mange, running sores, and other diseases arising from an unhealthy state of the blood.

The said compound consists of chlorides of magnesium, bromine, and zinc, either separately or in any combination. I take chloride of magnesium in 5 solution at about 40° Twaddell, add from one to two ounces of bromine to a gallon of the said solution, and in some cases from five to ten per cent. of chloride of zinc. For human beings ten to twenty drops in a wine glass of pure water will be a sufficient dose for an adult, to be repeated as the case may require. For cattle one to two ounces of the solution with five to 10 ten per cent. of chloride of zinc added may be given in a pint of water, or as much water as the beast will drink, but these proportions may be varied according to the virulence of the disease.

For outward application, as baths or embrocations, the said solution may be freely applied ; also painless bandages which do not stick to the skin when taken 15 off are obtained by impregnating cloth with the above solution. By increasing the chloride of zinc to from eleven to twenty per cent. it may also be freely used as a disinfectant for hospitals, barracks, holds of ships, railway trucks, or similar places. I also use chlorides of magnesium and bromine for preserving animal matter for shipment as food, the strength to be about 16° Twaddell. 20

The mechanical apparatus consists of an auxiliary lung respirator, which I make of leather or other suitable material, and of any suitable conformation to suit cattle or human beings. In the muzzle or pad for the mouth or nose I punch two or more holes sufficiently large to ensure easy breathing. To each hole I attach a tube and valve with couplings for attaching thereto tubing 25 of any required length, one of the valves is fixed to open inwards towards the mouth, the other to open outwards from the mouth ; the air supply valve being opened by inhalation, and closed by respiration ; the outlet valve is opened by respiration and closed by inhalation ; a bag or receiver is fastened under the end of the muzzle to receive the saliva with an outlet for its removal. Tubes 30 of any required length are coupled to the supply and outlet valves by which the pure air may be supplied direct to and the respired air conveyed direct from the respiratory organs any distance from the patient or hospital.

My improved air disinfecting filter is attached or not to a reserve chamber, 35 from which the respiratory organs are supplied with disinfected air, and consists of a box sufficiently large to supply one or more subjects, in which box is inserted a number of tubes which conduct the air through the disinfecting solution, after which it rises through charcoal, coke, or other material saturated with the same solutions and through a sieve or perforated plate into the

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reserve chamber. I also employ, when desired, another filter of similar construction to the above for disinfecting the exhaled air before it passes into the atmosphere.

For feeding I partition off the front part of the stall with an opening to admit the head, which opening is enclosed by air proof or disinfecting cloth surrounding the neck of the animal, the purified air being supplied by a valve connected with the air chamber, and the exhaled air passes through a valve into the above-named disinfecting filter before its arrival into the open air. The above appliances procure isolation of the respiratory organs.

10 For safe removal or perambulation I couple to the valves short tubes with disinfecting filters inserted therein, one for the prevention of receiving the infected air and the other to prevent its communicating infection.

My method for preventing contagion being communicated or received through the medium of the skin is by clothing, surrounding, or bandaging the animal with cloth or other suitable material impregnated with the above-named disinfecting solution or solutions, or by impregnating the skin with the same, by which isolation from the infection of the atmosphere by which they are surrounded is obtained. Small doses of the said solution occasionally given to healthy animals will lessen the violence of an attack of rinderpest or other
20 contagious disease, if not throw off the influence altogether without isolation.

My general adaptation of the auxiliary lung respirator consists in varying the conformation and material to suit the comfort, convenience and appearance of human beings, the principle of supply and outlet valves, filters, and the rest being the same as that for animals.

25 I have also another self-acting respirator for the nostrils, constructed similarly to the one before described, and which may be used either separately or combined with the one for the mouth, or I put two separate tubes in the nostrils for the same purpose. Medicating and disinfecting filters are inserted in the supply tube whether for the mouth or nose, the latter forming an important
30 desideratum to medical men and others visiting hospitals or other places infected by the presence of decaying or decomposed animal or vegetable matter.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said William Hibbert in the Great Seal Patent Office on the 18th July 1866.

35 TO ALL TO WHOM THESE PRESENTS SHALL COME, I, WILLIAM HIBBERT, of the City of Manchester, in the County of Lancaster, send greeting,

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WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Eighteenth day of January, in the year of our Lord One thousand eight hundred and sixty-six, in the twenty-ninth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said William Hibbert, Her special license that I, the said William Hibbert, my 5 executors, administrators, and assigns, or such others as I, the said William Hibbert, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel 10 Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN THE COMBINATION OF CHEMICAL MATTERS AND MECHANICAL APPARATUS APPLIED THEREWITH FOR THE PREVENTION OR CURE OF CONTAGIOUS AND OTHER DISEASES TO WHICH HUMAN BEINGS AND ANIMALS ARE SUBJECT," upon the condition (amongst others) that I, the said William Hibbert, my executors or administrators, by an instrument in 15 writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent. 20

NOW KNOW YE, that I, the said William Hibbert, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the Figures on the accompanying Sheet of Drawings, and to the letters of reference marked thereon (that is to say):— 25

This Invention consists, first, of a compound solution to be used internally as a medicine, or outwardly as baths, embrocations, or saturated bandages; it also acts as a disinfectant and preventive agent against infectious diseases generally.

Secondly, of mechanical apparatus for filtering, purifying, and disinfecting 30 the polluted air or atmosphere in infected situations. It is particularly applicable to preventing and arresting the progress of fermentation and decomposition in the blood of human beings or animals, as in the cases of rinderpest, fevers, womb diseases, scrofula, mortification, glanders, mange, running sores, and other diseases arising from an unhealthy state of the blood. 35

The said compound consists of chlorides of magnesium, bromine, and zinc, either separately or in any combination. I take chloride of magnesium in solution at about 40° Twaddell, add from one to two ounces of bromine to a gallon of the said solution, and in some cases from five to ten per cent. of

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chloride of zinc. For human beings ten to twenty drops in a wine glass of pure water will be a sufficient dose for an adult, to be repeated as the case may require. For cattle one to two ounces of the solution, with from five to ten per cent. of chloride of zinc added may be given in a pint of water, or as much water as the beast will drink; but these proportions may be varied according to the virulence of the disease.

For outward application, as baths or embrocations, the said solution may be freely applied; also painless bandages which do not stick to the skin when taken off are obtained by impregnating cloth with the above solution. By increasing the chloride of zinc to from ten to twenty per cent. it may also be freely used as a disinfectant for hospitals, barracks, holds of ships, railway trucks, or similar places. I also use chlorides of magnesium and bromine for preserving animal matters for shipment as food, the strength to be about 160° Twaddell.

The mechanical apparatus consists of auxiliary lung respirators, which I make of any suitable material, and of any suitable conformation to suit cattle or human beings. On the accompanying Sheet of Drawings, Fig. 1 is an elevation, and Fig. 2 a sectional plan of one of my auxiliary lung respirators for cattle. In the muzzle or pad *a* for the mouth I punch two or more holes sufficiently large to ensure easy breathing. To the holes I attach tubes *b*, *c*, and valves *d*, *e*, with coupling tubes *f*, *g*, for attaching thereto tubing of any required length; the valve *d* is arranged to open inwards towards the mouth, the other to open outwards from the mouth, the air supply valve *d* being opened by inhalation and closed by respiration; the outlet valve *e* is opened by respiration and closed by inhalation, and a bag or receiver may be fastened under the end of the muzzle to receive the saliva, which is removed through an outlet in the bag. Tubes of any required length are coupled to the coupling tubes *f*, *g*, by which the pure air may be supplied from any distance direct to and the respired air conveyed direct from the respiratory organs, and carried off any distance from patient or hospital.

One arrangement of my improved disinfecting filters for cattle is shewn in Fig. 3; it is attached to a reserve chamber from which the respiratory organs are supplied with disinfected air, and consists of a box *h* sufficiently large to supply one or more subjects, in which box is inserted a number of tubes *i*, which conduct the air through the disinfecting solution *k*, after which it rises through a sieve or perforated plate *l*, and through charcoal, coke, or other material saturated with the same solution, and passes into the reserve chamber *m*, having tubes and nozzles *n* from which the cattle inhale the disinfected air. I also employ, when desired, another filter of similar construction to the above for disinfecting the exhaled air before it passes into the atmosphere.

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For feeding I partition off the front part of the stall with an opening to admit the head, which opening is enclosed by airproof or disinfecting cloth surrounding the neck of the animal, the purified air being supplied by a valve connected with the air chamber, and the exhaled air passes through a valve into the above-named disinfecting filter before its arrival into the open air. 5

For safe removal or perambulation I couple to the valves short tubes with disinfecting filters inserted therein, one for the prevention of receiving the infected air, and the other to prevent its communicating infection. By the above appliances I procure isolation of the respiratory organs.

My method for preventing contagion being communicated or received 10 through the medium of the skin is by clothing, surrounding, or bandaging the animal with cloth, or other suitable material impregnated with the above-named disinfecting solution or solutions, or by impregnating the skin with the same, by which isolation from the infection through the medium of the skin is obtained. Small doses of the said solution occasionally given to healthy 15 animals will lessen the violence of an attack of rinderpest or other contagious disease, and assist nature to throw off the influence altogether without isolation.

My general adaptation of the auxiliary lung respirator consists in varying the conformation and material to suit the comfort and convenience of human 20 beings, the principle of supply and outlet valves being the same.

One of my improved respirators for human beings is shewn in Fig. 4; it is provided with tubes *o*, *p*, having in their interior inlet and outlet valves similar to those shewn in Fig. 2. The said tubes are attached to other tubes of any required length, by which the pure air may be supplied direct to, and the 25 respired air conveyed direct from the respiratory organs to any distance from patient or hospital; or the inlet tube *o* is connected to a chemical filter containing pure or disinfected air, and the outlet tube *p* to the atmosphere, or to a disinfecting filter.

Figs. 5 and 6 are two views of a respirator for human beings, in which the 30 disinfectant is connected to the respirator. The part *q* is formed of the ordinary wire gauze or perforated plate open to three valves, one inlet and the other two outlet. The inlet valve communicates with the box *r*, in which is inserted a chemical filter, and the outlet valves communicate with the passages *s* open to the atmosphere. Instead of one inlet and two outlet valves 35 there may be one or more of each.

In Fig. 7, I shew a portable filter for filtering or purifying the air before it is inhaled by human beings or animals. In the bottom of the vessel there is some disinfecting solution *t*, to which the surrounding air is conducted

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through the tubes *u*. Above the solution there is a sieve or perforated plate *v*, on which there is a layer of charcoal, coke, or other material saturated with the solution through which the disinfected air passes into the chamber *x*, at the top of which there is a cap *y* having as many tubes *z* as required, to which
5 tubes are attached the inhaling tubes of respirators similar to that shewn in Fig. 4. When used for cattle there is only one large aperture at the top attached to a pipe leading to the muzzle or pad, Figs. 1 and 2.

I have also another self-acting respirator for the nostrils constructed similar to the one before described, and which may be used either separately or com-
10 bined with the one for the mouth; or I put two separate tubes in the nostrils for the same purpose. Medicating and disinfecting filters are inserted in the supply and outlet tubes, whether for the mouth or nose, the latter forming an important desideratum to medical men and others visiting hospitals, or other places infected by the presence of decaying or decomposed animal or vegetable
15 matter.

Having now described the nature and particulars of my said Invention I desire it to be understood that I claim, the various combinations of disinfecting and medicinal matters, and the several arrangements of mechanical apparatus, applied either separately or in any combination, for the prevention
20 or cure of contagious and other diseases to which human beings and animals are subject, as herein described and illustrated in the accompanying Sheet of Drawings.

In witness whereof, I, the said William Hibbert, have hereunto set my hand and seal, this Seventeenth day of July, in the year of our Lord
25 One thousand eight hundred and sixty-six.

WILLIAM HIBBERT. (L.S.)

Signed, sealed, and delivered by the within-named William Hibbert, in the presence of

30 E. J. HUGHES,
Patent Agent,
Manchester.

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HIBBERT'S SPECIFICATION.

FIG. 1.



FIG. 2.

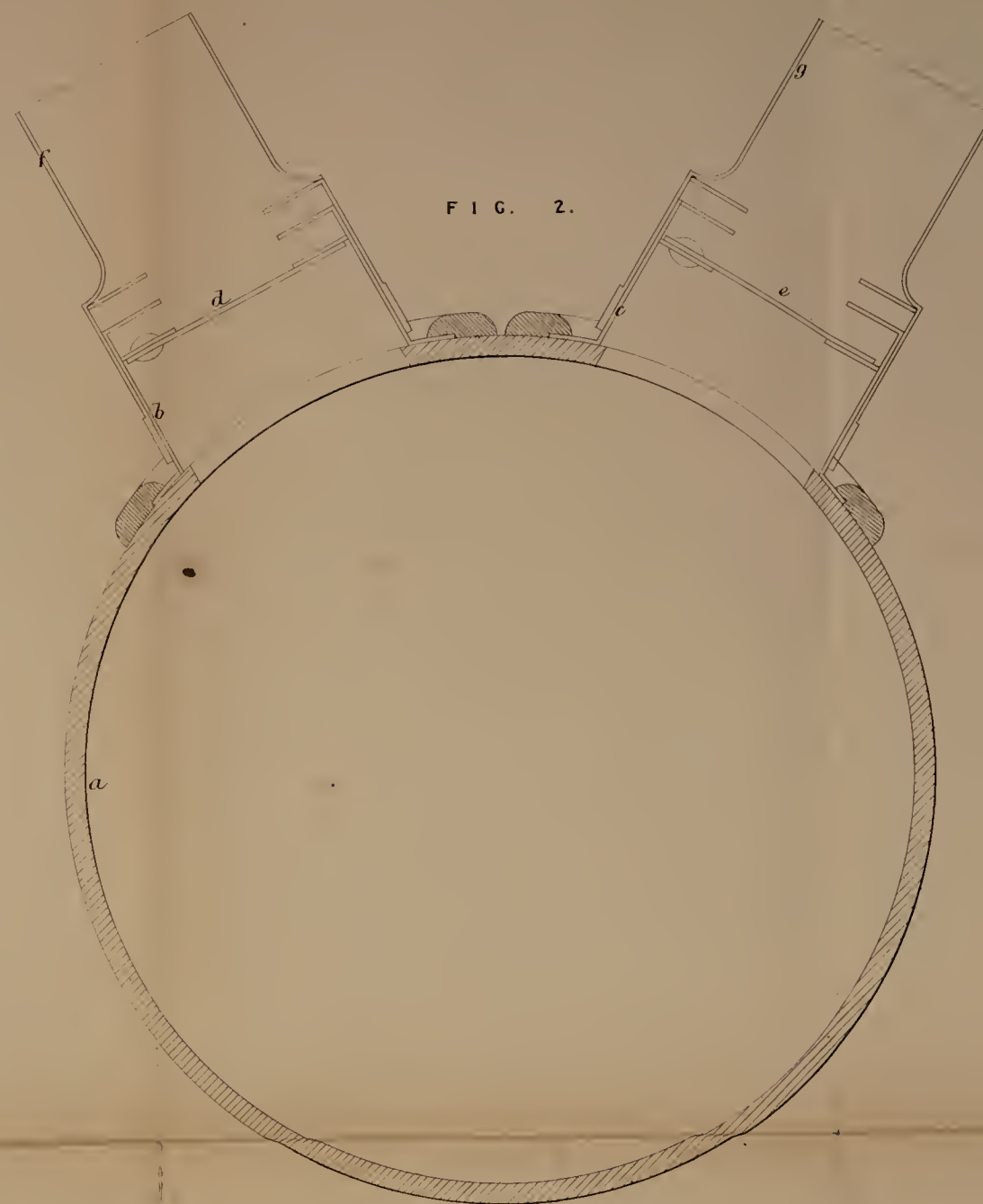


FIG. 7.



FIG. 3.

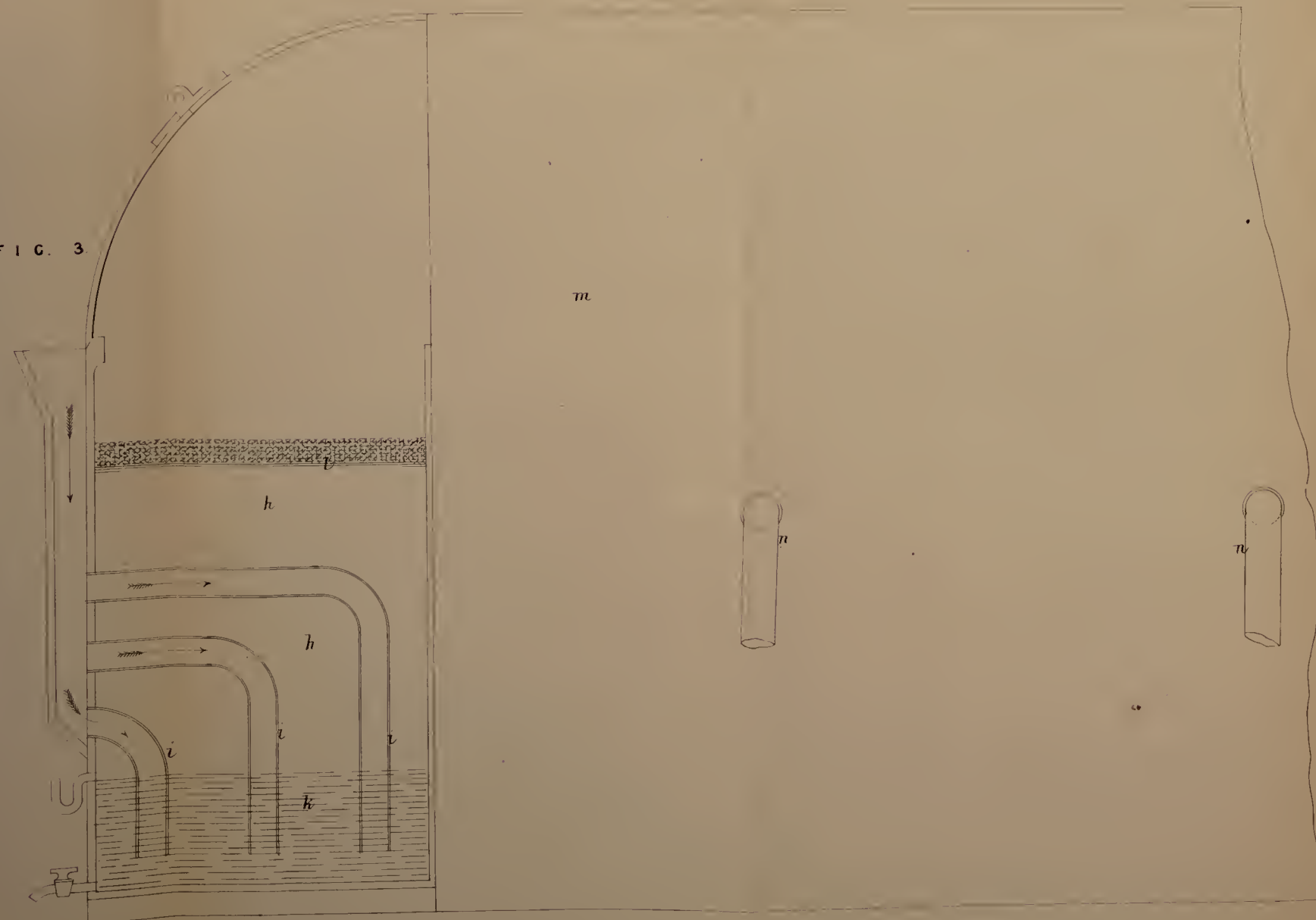


FIG. 4.

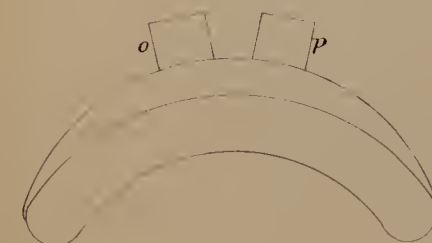


FIG. 5.

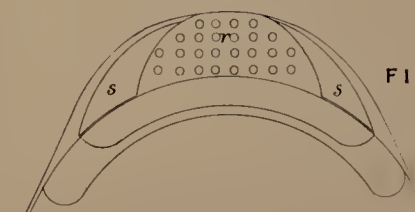


FIG. 6.

